

$$5^2 + 12^2 = h^2$$

$$25 + 144 = h^2$$

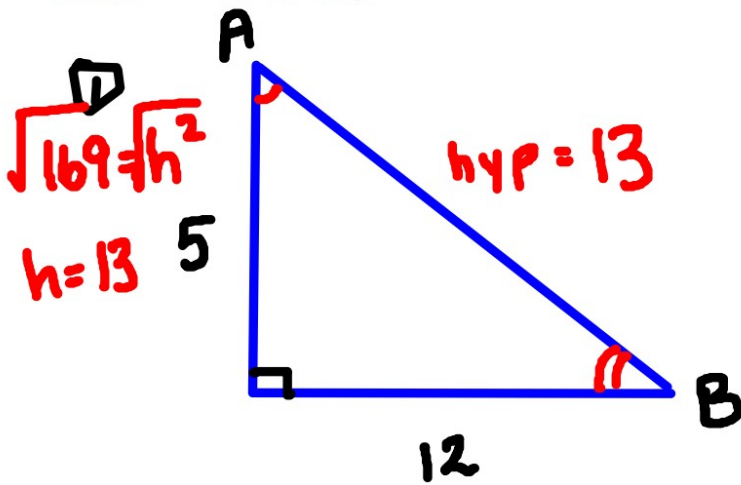
DRILL

Find $\sin A = \frac{12}{13}$

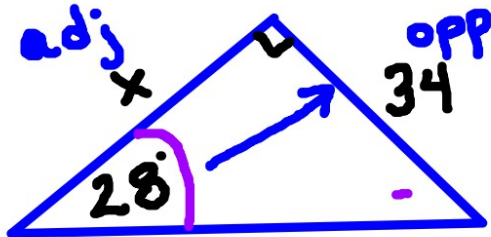
$$\csc A = \frac{13}{12}$$

$$\tan B = \frac{5}{12}$$

$$\sec B = \frac{13}{12}$$



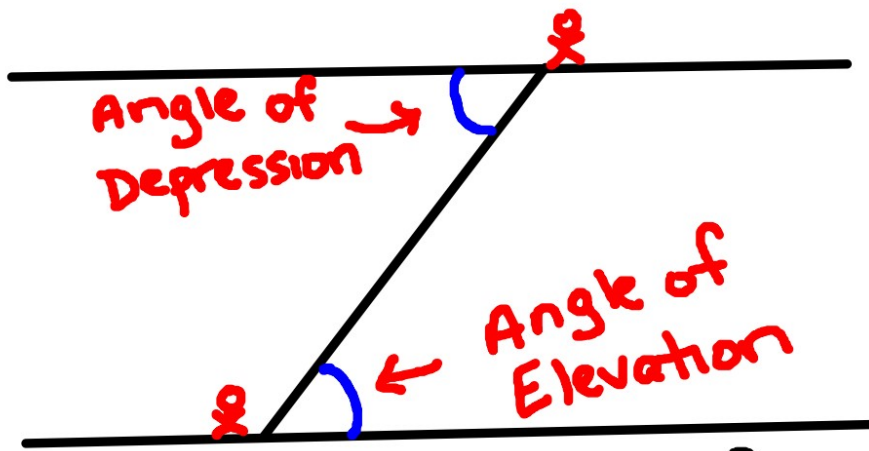
② Find the value of x :



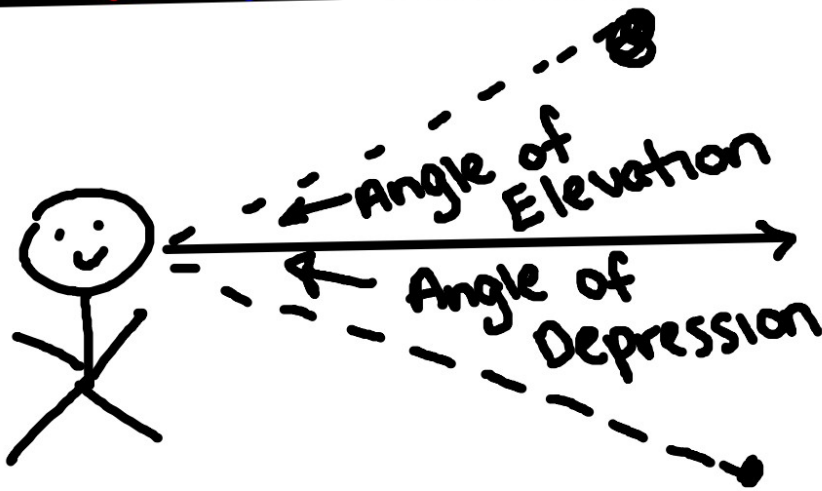
$$\frac{x \cdot \cancel{\tan 28^\circ}}{\cancel{\tan 28^\circ}} = \frac{34}{\cancel{x}} \cdot x$$

$$x \approx 63.94$$

(2/9) Finding Angle Measures using Trig



Alternate
Interior
Angles \cong



Inverse Trig Functions

$$\sin A = \frac{3}{5}$$

$$\sin^{-1}(\sin A) = \sin^{-1}\left(\frac{3}{5}\right)$$

$$A = \sin^{-1}\left(\frac{3}{5}\right)$$

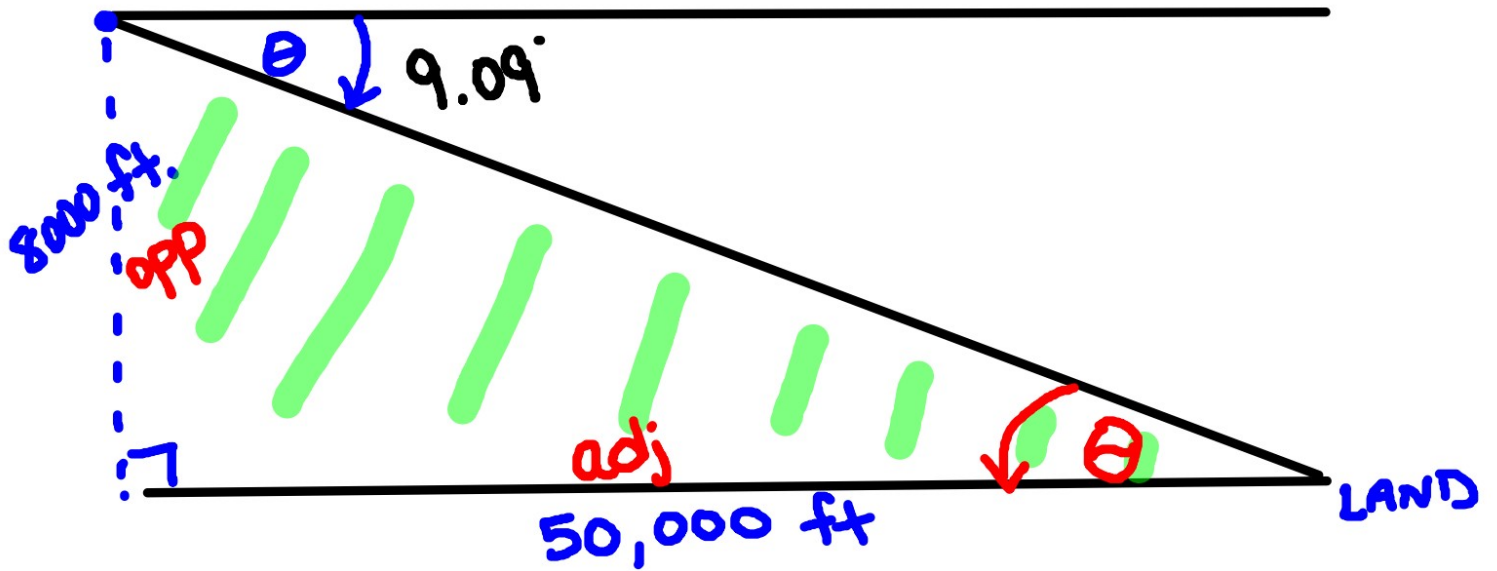
$$A \approx 36.87^\circ$$

$$* \sin^{-1}(\sin A) = A$$

$$\cos^{-1}(\cos A) = A$$

$$\tan^{-1}(\tan A) = A$$

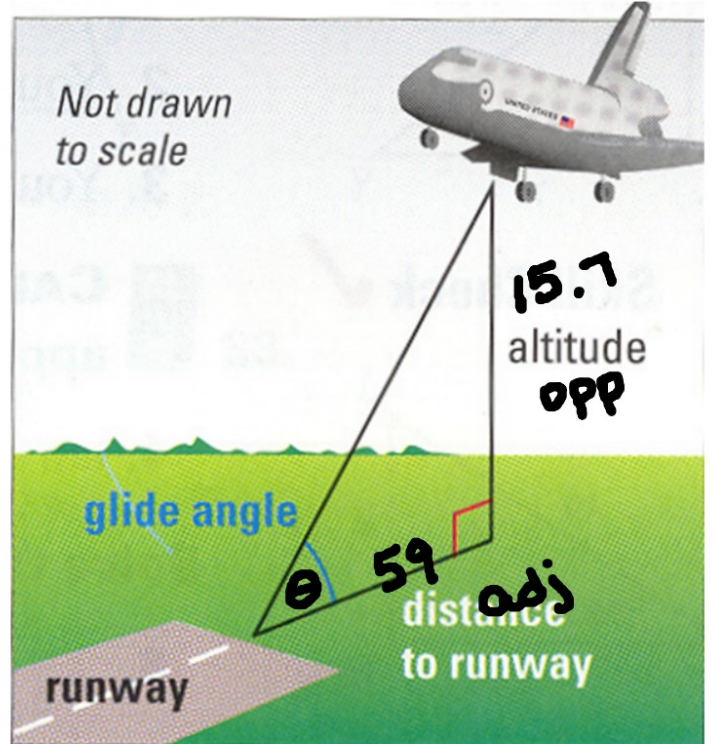
* Anytime you are finding an angle using trig we need the inverse function.



$$\tan \theta = \frac{8000}{50000}$$

$$\tan^{-1} \left(\frac{8000}{50000} \right) = \tan^{-1} \left(\frac{8}{50} \right) = 9.09^\circ$$

- Space Shuttle: During its approach to Earth, the space shuttle's glide angle changes.
- When the shuttle's altitude is about 15.7 miles, its horizontal distance to the runway is about 59 miles. What is its glide angle? Round your answer to the nearest tenth.



$$\tan \theta = \frac{15.7}{59}$$

$$\theta = \tan^{-1} \left(\frac{15.7}{59} \right) \approx 14.9^\circ$$

$$\tan \theta = \frac{8}{4}$$

$$\theta = \tan^{-1}\left(\frac{8}{4}\right)$$

$$\tan \theta = 2$$

$$\theta = 63.43^\circ$$

